

(12) UK Patent Application (19) GB (11) 2 244 312 (13) A

(43) Date of A publication 27.11.1991

(21) Application No 9111096.5

(22) Date of filing 23.05.1991

(30) Priority data

(31) 4016776

(32) 25.05.1990

(33) DE

(71) Applicant

Mtu Motoren-Und Turbinen-Union Friedrichshafen
GmbH

(Incorporated in the Federal Republic of Germany)

Olgastrasse 75, Postfach 20-40, D-7890
Friedrichshafen 1, Federal Republic of Germany

(72) Inventor

Hans Sudmanns

(74) Agent and/or Address for Service

Boulton Wade & Tennant
27 Fumival Street, London, EC4A 1PQ,
United Kingdom

(51) INT CL^a

F04D 27/00, F02B 37/12, F04D 25/00

(52) UK CL (Edition K)

F1C CBE CBF CD C114 C204 C505 C517 C521

C522 C602

F1B BBD BB120 BB140

F1G GPG

U1S S1994

(56) Documents cited

GB 2179401 A

GB 1343246 A

GB 0576241 A

GB 0540496 A

DE 3932721 C

(58) Field of search

UK CL (Edition K) F1C CBA CBB CBC CBD CBE

CBF CD

INT CL^a F04D 25/00 25/02 25/04 25/16 27/00

Online databases : WPI.

(54) Turbocharging assembly with controllable air-charge compressors for an internal-combustion engine

(57) Air-charge compressors (16, 17) are in permanent driving connection with an exhaust-driven turbine (15) which cannot be cut out during operating periods of the internal-combustion engine. The control of the operating condition (no-load delivery or delivery operation) of each air-charge compressor (16, 17) is effected by a change-over device (20) controlling the pressure connection. To improve the efficiency of the turbocharging assembly (12) the power absorption of whichever air-charge compressor (16, 17) has just been adjusted to no-load delivery is minimised by controlling the fluid mass throughput of (for example) "recirculated" air or turbine exhaust gas (eg. Figs. 3, 4) through that compressor. Devices (29, 30) of the compressors (16, 17) enable the direction of air flow to the rotors to be controlled to impart one of counter-swirl, no-swirl or co-swirl to the air entering the rotor.

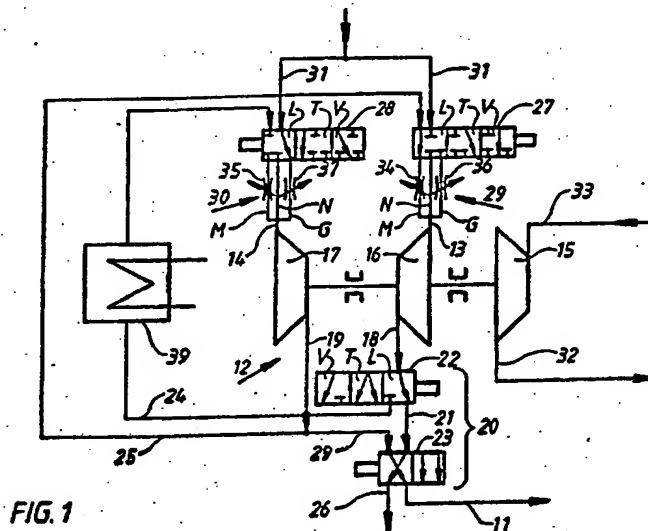


FIG. 1

BNSDOCID: <GB_2244312A>

GB 2 244 312 A

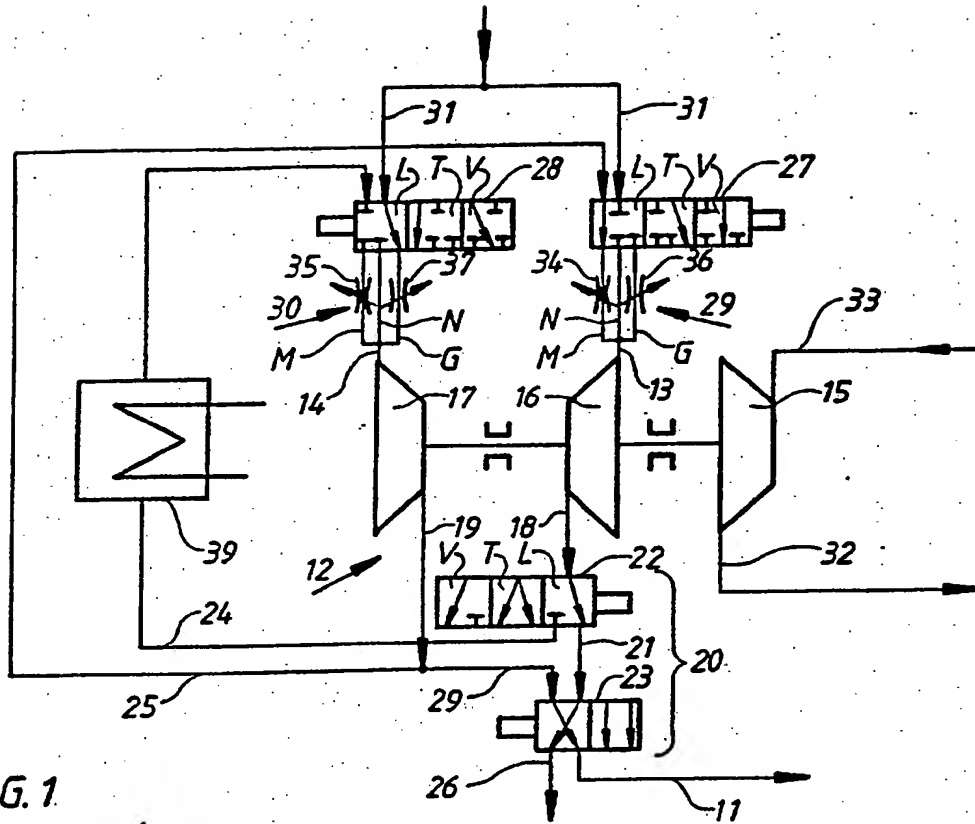


FIG. 1

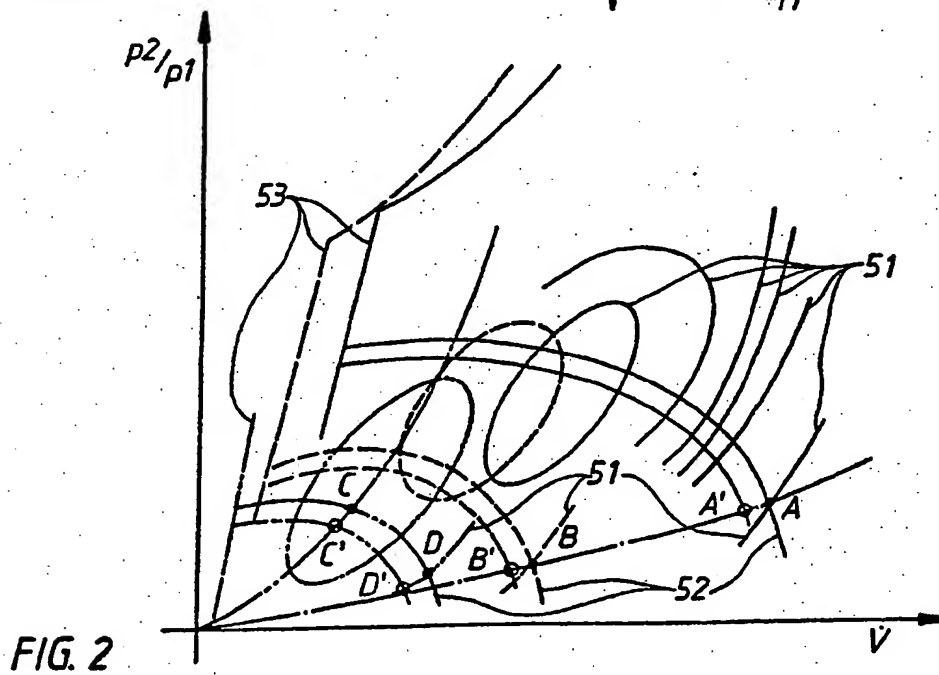


FIG. 2

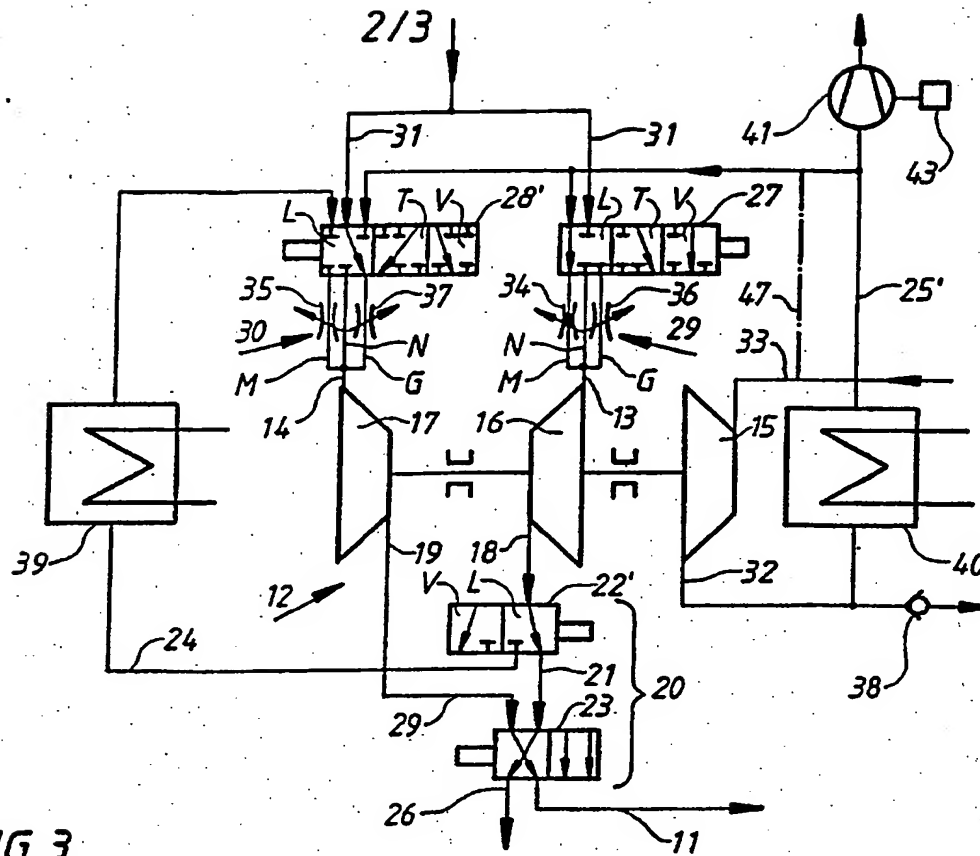


FIG. 3

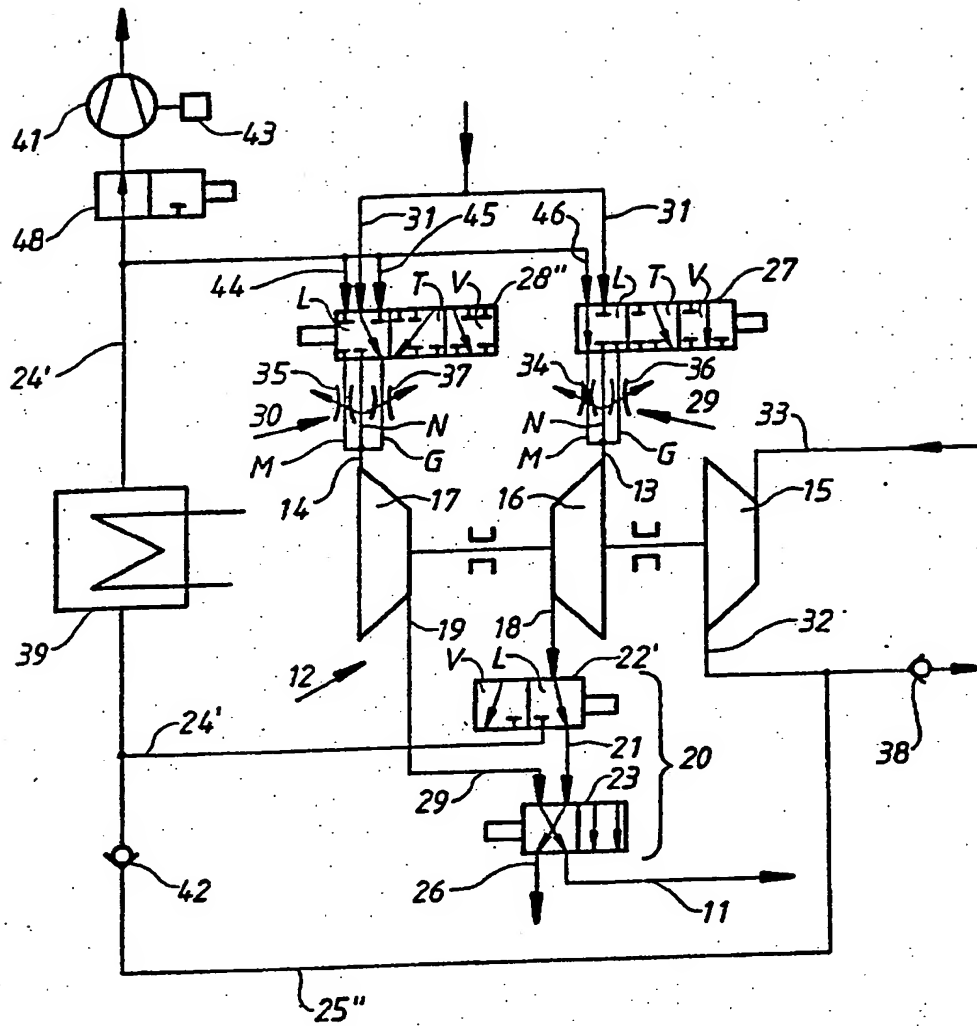


FIG. 4